

**BEFORE THE
FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON, D.C.**

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**FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF SECRETARY**

In the Matter of)

Amendment of the Commission's Rules to)
Establish Rules and Policies Pertaining to a)
Mobile Satellite Service in the)
1610 - 1626.5 / 2483.5 - 2500 MHz)
Frequency Bands)

CC Docket No. 92-166

To: The Commission

REPLY COMMENTS OF MOBILE DATACOM CORPORATION

Mobile Datacom Corporation ("MDC"), by its attorneys, respectfully submits its reply to the comments of other parties regarding the Commission's Notice of Proposed Rulemaking in the above-captioned proceeding, 9 FCC Rcd 1094 (1994) ("Notice").

INTRODUCTION AND SUMMARY

As the Commission knows, MDC is a service vendor using facilities in the RDSS/MSS band to provide valuable positioning and related data communications services to a rapidly-growing customer base. MDC has participated in this proceeding because the decisions made here will directly influence the means by which the company offers service continuity to its customers later in the decade. MDC currently uses a RDSS package on a GTE Spacenet satellite. However, MDC is preparing to provide its RDSS services in the LEO environment of the future, either through one of the LEO systems or through a geostationary package, reselling space segment to serve our end user customer base.

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In its initial comments MDC discussed revisions to the proposed MSS 1/ rules that are necessary so that LEO operators will be able to provide RDSS vendors with space segment to meet customer requirements for the most accurate positioning and cost-efficient data communications possible. In particular, we explained why the proposed CDMA/FDMA sharing plan imposed substantial and unnecessary costs on wideband CDMA users, while reducing positioning accuracy. These costs would be a product of the way the available bandwidth initially would be divided, as well as the Commission's proposal to reassign spectrum between the two transmission modes in the future. We emphasized the need for certainty in the CDMA center frequency, and proposed an alternative band-splitting plan that would provide for such certainty while still giving the Commission flexibility to reassign spectrum in the future.

For the most part the comments of other parties focus on issues that do not directly impact MDC. For example, we do not take a position on MSS license qualifications standards or alternative licensing procedures. Nor do we comment on construction milestone issues, notwithstanding our ultimate concern as a potential LEO customer that space segment be made available on a reasonably timely basis.

However, Loral/Qualcomm Partnership, L.P. ("LQP") has raised one issue that is of vital importance to MDC. Loral asks the Commission to modify its policy with respect to interim use of the RDSS/MSS spectrum by service vendors such as MDC. We demonstrate below that LQP's position is completely unjustified. In addition, we address several other issues raised in the comments that are

1/ All references to MSS service here are to the MSS Above 1 GHz Service that is the subject of the Notice.

relevant to the future operations of a company such as MDC that will be using RDSS/MSS space segment to serve end user communications requirements.

I. The Commission Should Reject LQP's Argument For New and Unnecessary Conditions on Interim RDSS Service.

The Commission has an established policy of permitting the temporary use of orbital resources to provide service to the public pending the deployment of incompatible permanent facilities. This policy has an important application in the case of the RDSS/MSS band. The Commission has correctly recognized that the public should not be denied valuable RDSS and ancillary data services during the necessarily lengthy period required to develop MSS rules, issue licenses to applicants, and then construct and launch operational spacecraft. Pursuant to this standard policy the Commission has authorized MDC and another RDSS service provider, Newcomb Communications, Inc. ("Newcomb"), to make use of receive-only RDSS packages on GTE Spacenet's Spacenet III and GSTAR-3 satellites. ^{2/} As the Commission noted in granting Newcomb's application, it is not in the public interest to "waste in-orbit capacity and deprive the public of service." ^{3/}

In the ordinary course the Commission has permitted satellite operators to provide service on a temporary basis so long as they do not cause harmful interference to permanently licensed systems. Thus, for example, the Commission regularly permits older fixed satellites to continue to operate in

^{2/} MDC is operating pursuant to special temporary authority pending Commission action on its Application for Interim Blanket License, File No. 814-DSE-P/L-93.

^{3/} Newcomb Communications, Inc., 8 FCC Rcd 3631, 3632 (1993) ("Newcomb Order").

inclined orbits at temporary orbital locations on this basis. 4/ The Commission recognizes that the public would be disserved by artificial and unnecessary termination of valuable satellite services.

The Commission has taken the same approach in the case of temporary RDSS/MSS facilities. The Commission has allowed interim operations now while there are no permanent MSS systems with which to interfere. Similarly, the Commission also has provided in the Newcomb Order that temporary RDSS operations may continue after the launch of the first MSS satellite if either (1) all operating MSS licensees consent to the continued RDSS operations, or (2) the RDSS operator can conclusively demonstrate to the Commission that its operations will not interfere. 5/ As with other special authority, interfering use is prohibited.

This approach maximizes service to the public and minimizes the need for regulatory intervention. Obviously if the first MSS operators agree to permit temporary RDSS services to continue after they launch their initial satellites, no further action by the Commission would be required for some time, and perhaps ever. MDC believes that once the MSS rules are defined and the applications are granted, it is likely that LEO systems will cooperate with temporary RDSS operators to work out plans under which vendors such as MDC will be able to transition to new RDSS/MSS space segment without disruption of service to the public. Those transition plans by definition will require continued use of interim RDSS space segment during the period between launch of the first MSS satellite, and the operational date of a sufficient constellation of MSS spacecraft to provide actual service to the public. But alternatively, if disagreements arise between

4/ See, e.g., Hughes Communications Galaxy, Inc., DA 94-457 (released May 11, 1994); GTE Spacenet Corp., 8 FCC Rcd 3078 (1993); GTE Spacenet Corp., 5 FCC Rcd 1182 (1990).

5/ Newcomb Order at 3633.

RDSS vendors and MSS operators, the Commission can evaluate the interference issue based on the record at the appropriate time -- just as it would in the case of temporary fixed service satellite operations. 6/

For reasons that are not entirely clear, LQP asks the Commission here to adopt new rules that would rewrite the Newcomb Order. 7/ According to LQP, "[t]he Commission should deflect any suggestion by Newcomb or Mobile Datacom, either now or in the future, that they should be permitted to continue operations until MSS systems are in service, or that they should be given the opportunity to demonstrate that they do not cause harmful interference to duly licensed systems." 8/ First of all, it should be noted that LQP did not seek reconsideration of the Newcomb Order, so its request is procedurally defective. But in any event, LQP's position lacks any public interest justification. By definition neither LQP nor any other party would be harmed if MDC continues service following launch of the first MSS satellite either because the operating MSS systems consent, 9/ or because the Commission has made an affirmative finding that MDC's operations do not

6/ MDC has explained in its Application why its own RDSS service will never interfere with Iridium's FDMA/TDMA operations, and why it can operate compatibly with CDMA systems for an extended period after they commence operations. See MDC Application, Spectral Utilization and Sharing Analysis; MDC Opposition (filed May 27, 1993). However, we have recognized that the Commission would prefer not to resolve this issue at this time, and we have agreed to condition our post-MSS operations on the termination provisions set out in the Newcomb Order. See Letter of MDC to Cecily Holiday, Chief, Satellite Radio Branch (Dec. 14, 1993).

7/ See LQP Comments at 118-19.

8/ Id.

9/ Of course, it still remains to be seen when, or even whether, LQP will launch and operate a MSS system. The Newcomb Order correctly provides that a non-operational licensee cannot veto continuation of temporary RDSS service that is acceptable to operational MSS systems.

interfere. Just as the Commission permits such temporary service in other satellite contexts, it should do so here.

LQP offers only two bare assertions in support of its position. First, LQP states that continuation of temporary RDSS service following launch of the first LEO satellite would "degrade the ability of licensed systems to provide service." 10/ This statement, of course, ignores the fact that by definition such "degradation" will not occur since the temporary operations would be required to be non-interfering. It is not surprising, therefore, that LQP does not attempt to elaborate on this irrational proposition.

Second, LQP claims that if MDC or others are allowed to justify post-launch service under the Newcomb conditions, this "would impair the effectiveness of the Commission's cut-off rules." 11/ This position is equally absurd. LQP knows full well that MDC's temporary RDSS authorization would be only that -- temporary. It would carry all the burdens of any other temporary satellite authorization, including the non-interference requirement and the duty to terminate in favor of permanent licensees at the appropriate time. MDC will have none of the benefits accruing to those, like LQP, that filed applications prior to the June 1991 cut-off.

In short, the Commission should reject LQP's unsupported argument for revision of the Newcomb Order termination conditions. Those conditions will fully protect operating MSS systems, while avoiding unnecessary termination of valuable RDSS services that would, in the Commission's words, "waste in-orbit capacity and deprive the public of service." 12/

10/ LQP Comments at 119.

11/ Id.

12/ Newcomb Order at 3632.

II. The Commission Should Adopt Rules That Permit RDSS Service to Continue in a MSS Environment

A. The Commission Should Fix the Center Frequency of the CDMA Spectrum

MDC explained in its initial comments the importance of establishing a fixed center frequency for the CDMA allocation. The Notice did not appreciate the economic consequences for wideband CDMA licensees and users if the sharing plan adopted in this proceeding leaves open the possibility that the CDMA center frequency would shift. Under the Notice sharing plan such a shift would occur in the event that the CDMA spectrum is reduced from 11.35 MHz to 8.25 MHz pursuant to the reassignment of spectrum to FDMA/TDMA services proposed to occur in certain circumstances.

A change in the center frequency of the CDMA band would require retuning and use of new filters for both space segment and ground terminals. Manufacturers of CDMA spacecraft would have to build this flexibility into their satellites. MDC estimates that the cost to accommodate the future reassignment of CDMA spectrum could run in the millions of dollars for many of the LEO spacecraft. It would also substantially increase the cost and complexity of terminal units, or require users to return terminals for retrofitting in the event of a spectrum reassignment. These matters are discussed in more detail in MDC's initial comments. 13/

13/ MDC explained that the Notice plan could end up tantamount to a de facto assignment of 8.75 MHz to CDMA from the outset. We warned that rather than build more complex and costly systems capable of use in either a 11.35 or 8.75 MHz environment, CDMA systems might assume the least common denominator and build for an 8.75 MHz capability from the start. See MDC Comments at 6.

Other parties have opposed the Commission's proposal to reassign CDMA spectrum to FDMA/TDMA. For example, TRW, Inc. calls this proposal "particularly one-sided" and urges its rejection. 14/ Similarly, LQP explains why the reassignment plan would unfairly penalize a CDMA system designed and built with full 11.35 MHz capability because reassignment would be triggered by circumstances beyond its control -- the failure of another CDMA system to meet its construction milestones. 15/ Both parties suggest that the reassignment plan is especially unfair given that FDMA/TDMA services have been tentatively assigned to premium spectrum at the top of the band.

MDC's primary concern is that the CDMA center frequency be fixed. This would occur if the Commission abandons its proposal to reassign spectrum and permanently fixes the CDMA allocation at 11.35 MHz. We therefore support such a decision if the Commission is not otherwise inclined to revise its sharing plan.

However, MDC proposed in its comments an alternative plan that would both fix the center frequency for CDMA and preserve the Commission's flexibility to reassign spectrum later, including reassignment of spectrum from FDMA/TDMA to CDMA if appropriate. 16/ Specifically, MDC suggested that the Commission assign the center 11.35 MHz to CDMA, and 2.575 MHz at both the top and bottom of the band to FDMA/TDMA. This solution would permanently fix the CDMA center frequency at 1618.25 MHz, and leave the Commission flexibility to

14/ TRW Comments at 63.

15/ LQP Comments at 39.

16/ Ellipsat has argued for the Commission to provide for the reassignment of additional spectrum to CDMA if the FDMA/TDMA system fails to meet its implementation milestones. See Ellipsat Comments at 27.

reassign spectrum either to or from FDMA/TDMA in the future without unreasonably burdening wideband CDMA service.

MDC's sharing plan also has the advantage of technological neutrality. Other CDMA applicants here vigorously object to the fact that the sharing plan would grant Iridium the prime spectrum at the top of the band while CDMA users would face the need to coordinate with GLONASS and the radio astronomy community. ^{17/} MDC agrees that these objections have merit, both as a legal matter and as a matter of equity. MDC's sharing plan would address these concerns by more fairly distributing the burden of coordination among the MSS applicants.

Ultimately, however, MDC's primary concern is that the Commission adopt a sharing plan under which the CDMA center frequency is fixed so that satellites and terminals can be built with certainty. The Commission can accomplish this result by dropping its proposal for spectrum reassignment, and permanently allocating 11.35 MHz to CDMA. This is the minimum solution. MDC, however, continues to believe that the better long-term approach would be to assign CDMA services to the center of the band, and assign FDMA/TDMA to the top and bottom segments.

^{17/} For example, TRW argues that "the Commission has proposed to give Motorola the spectrum equivalent of a penthouse suite on 'Boardwalk' while relegating the applicants that can serve its competitive multiple entry policies to cold-water flats on 'Baltic Avenue'." TRW Comments at 62. Accord, Constellation Comments at 23.

B. The Commission Should Prohibit MSS Discrimination Regarding the Terms and Conditions Under Which Service is Made Available For RDSS

MDC has not opposed the requests of the MSS applicants that they be classified as non-common carriers insofar as those entities do not intend to offer service to end users. We realize that for financing and other reasons it may be important for MSS licensees to be so classified. However, the Commission nevertheless should condition the licenses of the MSS applicants on their agreement to provide space segment for RDSS to service vendors such as MDC on reasonable terms and conditions.

First, MSS licensees should be required to make available "bulk capacity" space segment suitable for RDSS positioning and data. RDSS service would be prohibitively expensive if MSS vendors only offer switched per minute capacity.

Second, MSS licensees should be required to provide this "bulk capacity" at reasonable rates and on fair terms and conditions. To state the obvious, MSS operators could block RDSS if they nominally offered space segment to service vendors such as MDC but did so only at rates or subject to other terms that made RDSS service impossible. MDC would be particularly concerned, for example, if only one CDMA system is built, and all RDSS service vendors are required to obtain space segment from that single operator. In that event opportunities for anticompetitive conduct could well be present, particularly if the MSS operator has an affiliate providing its own services to end users.

Again, MDC recognizes that the Commission may not want to address these competitive issues by regulating MSS vendors as common carriers under Title II. At a minimum, however, it should use its authority under Title III and require MSS operators, as a condition of their licenses, to make space segment available for RDSS service on reasonable terms and conditions.

C. The Commission Should Continue to Allow RDSS Service At Geostationary Orbit

In its initial comments MDC explained that while it has had discussions with CDMA LEO applicants looking towards using their space segment, its RDSS service would work equally well from space segment located at geostationary orbit. 18/ The Commission must recognize that CDMA MSS systems may not be built on a timely basis to ensure RDSS service continuity. While MDC hopes this is not the case, the Commission must continue to leave flexibility for RDSS service to be provided at geostationary orbit. We want to reemphasize that we would fully expect a geostationary RDSS space station applicant (either ourself or some other party) to be able to meet the Notice's requirement for a demonstration that "any proposed system is technically compatible" with all authorized MSS systems.

We note that other commenters have similarly indicated that there is no inherent advantage to LEO as opposed to GSO MSS satellites. 19/ It is not our intention to participate in the debate over where the MSS Above 1 GHz Service should be located. We recognize that the Commission may have reasons for encouraging intermodal competition between AMSC at GSO and LEO operators. Our request here is for the Commission to continue to leave RDSS service outside this debate, and free to operate using either LEO space segment, or GSO space segment if necessary, subject to meeting the "technical compatibility" requirement.

18/ See MDC Comments at 12-13.

19/ See, e.g., Comments of COMSAT at 8-9.


CONCLUSION

As the Commission completes this proceeding, it must ensure that space segment remains available for the RDSS services that are co-primary users of the band. Here and in its initial comments MDC has discussed the revisions to the proposed MSS rules that are necessary to protect the public interest in RDSS. We respectfully request that the Commission adopt these revisions.

Respectfully submitted,

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CERTIFICATE OF SERVICE

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